

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An apparatus, comprising:
a die;
a heat spreader mounted adjacent the die;
a buffer layer formed above a surface of the heat spreader; and
a thermal interface material interposed in a gap between the die and the heat spreader; the thermal interface material comprising an array of carbon nanotubes formed above the buffer layer; and
~~at least one buffer layer disposed between the thermal interface material and at least one of either the die or the heat spreader.~~
2. (Original) The apparatus of claim 1, wherein selected carbon nanotubes of the array of carbon nanotubes are bonded to adjacent carbon nanotubes of the array of carbon nanotubes.
3. (currently amended) The apparatus of claim 1, wherein a further buffer layer is interposed between the interface material and the die.
4. (Original) The apparatus of claim 1, wherein the buffer layer comprises a metal.
5. (Original) The apparatus of claim 1, wherein a portion of at least some carbon nanotubes of the array of carbon nanotubes are coated with metal.
6. (Original) The apparatus of claim 3, wherein the buffer layer comprises a film selected from the group consisting of Cr, Mo, Ti, SiC and TiC.

7. (Original) The apparatus of claim 1, wherein a buffer layer is interposed between the thermal interface material and the heat spreader.

8. (Original) The apparatus of claim 7, wherein the buffer layer comprises a catalyst for carbon nanotube growth selected from the group consisting of at least one of Co, Fe and Ni.

9. (Original) The apparatus of claim 1, wherein the length of at least some of the carbon nanotubes slightly exceeds the width of the gap.

10. (Currently Amended) The apparatus of claim 1, wherein ~~a surface of the heat spreader is formed from a material having a hardness substantially less than that of the nanotubes~~ and free ends of at least some of the carbon nanotubes project from the array of carbon nanotubes to embed them in the surface of the heat spreader.

11. (Original) The apparatus of claim 10, wherein the surface is a coating.

12. (Original) The apparatus of claim 1 wherein the length of some of the carbon nanotubes exceeds a predetermined gap by a distance established by the height of a spacer inserted in the gap.

13. (Currently Amended) An apparatus, comprising:
a buffer layer formed above a surface of a heat spreader; and
an array of carbon nanotubes formed above the buffer layer to be interposed between a die and ~~[[a]]~~ the heat spreader, a longitudinal axis of some of the carbon nanotubes substantially commonly oriented and aligned substantially perpendicular to the ~~[[a]]~~ surface of ~~either at least one of the die or the heat spreader; and~~
a buffer layer formed between the array and a surface of either the die or the heat spreader.

14. (Original) The apparatus of claim 13, wherein the buffer layer consists of a film selected from the group consisting of Cr, Mo, Ti, W, SiC and TiC.

15. (Original) The apparatus of claim 13, wherein the length of some of the carbon nanotubes exceeds a predetermined gap by a distance established by the height of a spacer inserted in the gap between the die and the heat spreader.

16. (Currently Amended) A computing system, comprising:
a die including a die surface and a circuit; ~~electrically coupled to the wireless transceiver~~;
a heat sink; a thermal intermediate interposed between the die surface and the heat sink
and having an array of carbon nanotubes and at least one buffer layer coupled to the array of
carbon nanotubes and at least one of the heat sink and the die surface; and
at least one dynamic random access memory device.

17. (Original) The system of claim 16, wherein the circuit comprises a processor that acts upon data signals, and may include, for example, a microprocessor.

18. (Original) The system of claim 16, wherein the buffer layer comprises a metal.

19-29. (Canceled)